

CLAIMS

What we claim as our invention is:

1. A bicycle trainer for use with a conventional bicycle with the front wheel removed comprising:
 - (a) a pivot frame having substantially rigid contiguous parts including; a substantially vertical front member for detachably supporting the front forks of said bicycle; a substantially vertical rear u-shaped member for detachably supporting the rear axle of said bicycle, an interposed horizontal member for supporting said front member and said rear member, and further including a tail member substantially in line with said horizontal member;
 - (b) a base frame having front and rear rotational coupling means for pivotably supporting said horizontal member of said pivot frame;
 - (c) a resistance device attached at the end of said tail member of said pivot frame and frictionally coupled to the rear tire of said bicycle;
 - (d) a spring mechanism contiguous to both said pivot frame and said base frame for pivotably restoring said frame and said bicycle to a substantially vertical neutral position after being pivotably displaced;whereby a person may simulate bicycle sprinting and hill climbing by pivoting the bicycle during use.
2. The bicycle trainer of claim 1 wherein said vertical front member of said pivot frame includes a rotational coupling at the front fork mount to allow for simulated bicycle steering.

3. The bicycle trainer of claim 1 wherein said pivot frame and said base frame are further pivotably connected by a shock absorber.
4. The bicycle trainer of claim 1 wherein said horizontal member of said pivot frame is a cylindrical member.
5. The bicycle trainer of claim 1 wherein said front and rear rotational couplings are bearings.
6. The bicycle trainer of claim 1 wherein said resistance device is a fluid resistance device, a magnetic resistance device, or an air resistance device.
7. A bicycle trainer to be used by a person for use with a conventional bicycle with the front wheel removed comprising:
 - (a) a pivot frame having substantially rigid contiguous parts including; a substantially vertical front member for detachably supporting the front forks of said bicycle; a substantially vertical rear u-shaped member for detachably supporting the rear axle of said bicycle, an interposed cylindrical horizontal member for supporting said front member and said rear member, and further including a tail member extending at the rear of said pivot frame and substantially in line with said cylindrical horizontal member;

- (b) a base rectangular frame having front and rear rotational coupling means for pivotably supporting at said cylindrical horizontal member at opposite ends;
- (c) a resistance device attached at the end of said tail member of said pivot frame and frictionally coupled to the rear tire of said bicycle;
- (d) a spring mechanism and a shock absorber contiguous to both said pivot frame and said base frame for pivotably restoring said frame and said bicycle to a substantially vertical neutral position after being pivotably displaced;

whereby a person may simulate bicycle sprinting, hill climbing, and pedaling while standing on the pedals with no seat contact by pivoting the bicycle about the imaginary tire contact line during use.

- 8. The bicycle trainer of claim 7 wherein said u-shaped vertical member of the pivot frame includes a screw-clamping device to support the rear axle.
- 9. The bicycle trainer of claim 7 wherein said vertical front member of said pivot frame includes a rotational coupling at the front fork mount.